

Claims

- [c1] A method for manufacturing, said method comprising:
providing a central processing unit (CPU) configured for a programmable logic controller (PLC) including a PLC module bus for coupling at least one PLC module to the CPU;
providing a means for wireless radio frequency communications; and
operationally coupling the means for wireless radio frequency communications to the CPU such that the means and CPU communicate without using the PLC module bus.
- [c2] A method according to Claim 1 wherein said operationally coupling the means to the CPU comprises mounting the means for wireless radio frequency communications and the CPU to a CPU card.
- [c3] A method according to Claim 1 wherein providing a means for wireless radio frequency communications comprises providing a Bluetooth protocol transmitter/receiver.
- [c4] A method according to Claim 1 wherein providing a means for wireless radio frequency communications comprises providing an IEEE 802.11 protocol transmitter/receiver.
- [c5] A method according to Claim 1 wherein providing a means for wireless radio frequency communications comprises providing a cellular protocol transmitter/receiver.
- [c6] A method according to Claim 1 wherein providing a CPU configured for a PLC comprises providing a CPU configured for a PLC comprising a Network Interface Unit.
- [c7] A method for communicating, said method comprising:
providing a wireless communication device; and
sending a wireless message from the wireless communication device to a programmable logic controller (PLC) having a central processing unit (CPU) and a PLC module bus for coupling at least one PLC module to the CPU, the CPU is coupled to a means for wireless radio frequency communications such that the

means for wireless radio frequency communications and CPU communicate without using the PLC module bus.

[c8] A method according to Claim 7 wherein said sending a wireless message comprises sending a wireless message from the wireless communication device to a programmable logic controller (PLC) having a central processing unit (CPU) and a PLC module bus for coupling at least one PLC module to the CPU, the CPU is coupled to a means for wireless radio frequency communications such that the means for wireless radio frequency communications and CPU communicate without using the PLC module bus, and the CPU and the means for wireless radio frequency communications are both mounted on a CPU card.

[c9] A Programmable Logic Controller comprising:
a backplane comprising at least one module connector;
a central processing unit (CPU) card mounted on said backplane;
a central processing unit (CPU) mounted on said CPU card; and
a transmitter/receiver mounted on said CPU card, said transmitter/receiver operationally coupled to said CPU.

[c10] A PLC according to claim 9 wherein said backplane further comprises a module bus wherein said CPU communicates with a module connected to said backplane via said module connector, said CPU operationally coupled to said transmitter/receiver to communicate there between with out using said module bus.

[c11] A PLC according to claim 9 wherein the transmitter/receiver is a Bluetooth protocol transmitter/receiver.

[c12] A PLC according to claim 9 wherein the transmitter/receiver is an IEEE 802.11 protocol transmitter/receiver.

[c13] A PLC according to claim 9 wherein the transmitter/receiver is a cellular protocol transmitter/receiver.

[c14] A PLC according to claim 9 wherein said PLC comprises a Network Interface Unit.

- [c15] An apparatus comprising:
a processor;
a radio frequency receiver operationally coupled to said processor; and
a radio frequency transmitter operationally coupled to said processor, said transmitter is configured to send a wireless message to a programmable logic controller (PLC) having a central processing unit (CPU) and a PLC module bus for coupling at least one PLC module to the CPU, the CPU is coupled to a means for wireless radio frequency communications such that the means and CPU communicate without using the PLC module bus.
- [c16] An apparatus according to Claim 15 wherein said means for wireless radio frequency communications comprises a Bluetooth protocol means.
- [c17] An apparatus according to Claim 15 wherein said means for wireless radio frequency communications comprises an IEEE 802.11 means.
- [c18] An apparatus according to Claim 15 wherein means for wireless radio frequency communications comprises a cellular protocol means.
- [c19] An apparatus according to Claim 15 wherein said PLC comprises a Network Interface Unit.
- [c20] An apparatus according to Claim 15 wherein said CPU and said means for wireless radio frequency communications are mounted on a CPU card.